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10/593,345	01/10/2007	Michihiko Namba	296543US0PCT	8956
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SHAH, MANISH S	
			ART UNIT 2853	PAPER NUMBER
			NOTIFICATION DATE 01/15/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 4-10, 14-15, 18-19 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namba et al. (# US 2005/0054751) in view of Ishibashi et al. (# US 2004/0003754) and Nagashima et al. (# US 2005/0170989).

Namba et al. discloses:

- A recording ink comprises: water (see Example), a wetting agent, a surfactant (see Abstract; [0107]), and colorant (see Abstract; [0103]; [0119]), wherein wetting agent comprises glycerin, 3-butanediol ([0107]) and the recording ink is at least one selected from the cyan ink, magenta ink, and yellow ink (see figure: 1; [0121]). They also disclose that surfactant is selected from anionic, a nonionic surfactant ([0143]).
- An ink cartridge comprising a container and a recording ink contained in the container (see figure: 2-3).
- An inkjet recording apparatus comprising: an ink ejecting unit by which to a recording ink, a stimulation is applied and the recording ink is ejected for forming the image (see figure: 1-4; [0221]-[0227]).

- An inkjet recording process comprising: ejecting a recording ink by which to the recording ink, a stimulation is applied and the recording ink is ejected for forming the image (see Examples; [0285]-[0289]).
- An ink record comprising: an image formed on a recording medium using a recording ink (see Examples).
- The ink composition comprising the colorant is an aqueous dispersion of polymer fine particles comprising a colorant (see Examples; [0119]).
- The polymer of the polymer fine particles is any one of a vinyl polymer and a polyester polymer ([0123]).
- The surfactant containing fluorine ([0102]; [0151]; [0184]).
- The anionic surfactant, the nonionic surfactant and the ampholytic surfactant are at least one compound selected from the group consisting of compounds represented by the following formulae (II) to (X):

R1-O-(CH₂CH₂)_hCH₂COOM Formula (II)

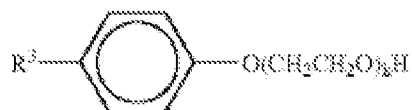
wherein R1 represents an alkyl group; M represents any one of an alkali metal ion, a quaternary ammonium ion, a quaternary phosphonium ion and an alkanolamine ion; and h is an integer of 3 to 12 ([0153]-[0154]),



Formula (III)

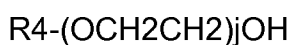
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wherein R2 represents an alkyl group and M represents any one of an alkali metal ion, a quaternary ammonium ion, a quaternary phosphonium ion and an alkanolamine ([0154]-[0155]),



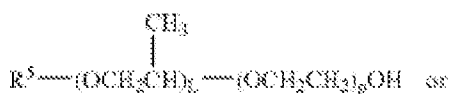
Formula (IV)

wherein R3 represents a hydrocarbon group and k is an integer of 5 to 20 ([0155]-[0156]),

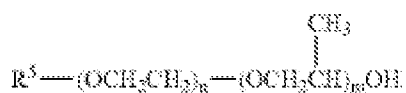


Formula (V)

wherein R4 represents a hydrocarbon group and j is an integer of 5 to 20 ([0156]-[0157]),

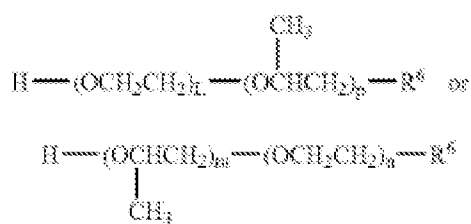


Formula (VI)



Formula (VI)

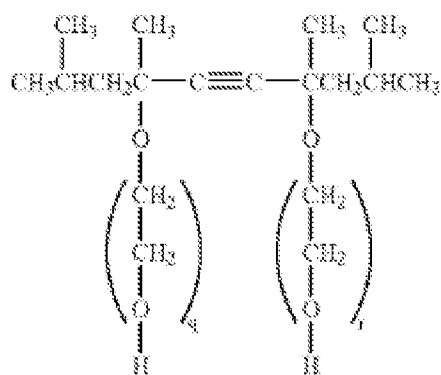
wherein R5 represents a hydrocarbon group and L, m, n and p are individually an integer of 1 to 20 ([0157]-[0158]),



Formula (VII)

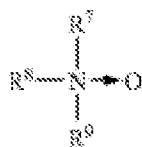
Formula (VII)

wherein R⁶ represents a hydrocarbon group and L, m, n and p are individually an integer of 1 to 20 ([0158]-[0159]),



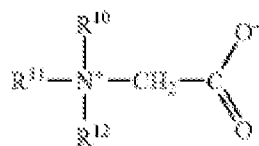
Formula (VIII)

wherein q and r are individually an integer of 0 to 40 ([0159]-[0160]),



Formula (IX)

wherein R⁷ and R⁸ represent an alkyl group or a hydroxyalkyl group and R⁹ represents an alkyl group or an alkenyl group ([0160]-[0161]),

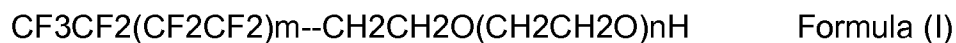


Formula (X)

wherein R10 and R11 represent an alkyl group or a hydroxyalkyl group and R.sup.12 represents an alkyl group ([0161]-[0162]).

- The recording ink comprises a C8 to C11 polyol compound and a glycol ether compound ([0172], [0184]).
- The C8 to C11 polyol compound is either 2-ethyl-1,3-hexanediol or 2,2,4-trimethyl-1,3-pentanediol ([0173]-[0174]).
- The recording ink is at least one of a cyan ink, a magenta ink, a yellow ink and a black ink (see Examples).
- The nozzle of the inkjet head has a diameter of 30 micrometer or less ([0091]).

Namba differs from the claim of the present invention is that (1) the wetting agent comprises 3-methyl-1,3-butanediol. (2) The ink composition includes the fluorine compound, wherein the compounds represented by the following formula (I):

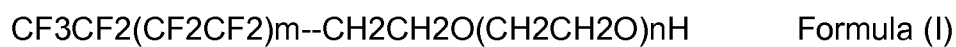


wherein "m" is an integer of 0 to 10 and "n" is an integer of 1 to 40.

Ishibashi et al. teaches to get the light stability and bleed free printed image, the recording ink comprises: water, a wetting agent, a surfactant ([0071]), and colorant (see Abstract; [0035]), wherein wetting agent comprises 3-methyl-1,3-butanediol ([0047]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Namba et al. by the aforementioned teaching of Ishibashi et al. in order to have the bleed free high quality printed image.

Nagashima et al. teaches that to get the high quality printed image, ink composition includes the fluorine compound ([0188]-[0190]), wherein the compounds represented by the following formula (I):



wherein "m" is an integer of 0 to 10 and "n" is an integer of 1 to 40 (see Abstract; [0073]-[0082]; see claim 15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Namba et al. by the aforementioned teaching of Nagashima et al. in order to have the high quality printed image.

2. Claims 2-3, 11, 16-17 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namba et al. (# US 2005/0054751) in view of Takashi (# JP 11-323221).

Namba et al. differs from the claim of the present invention is that the wetting agent is any one of (1) a combination of 3-methyl-1,3-butanediol and glycerin and (2) a combination selected from the group consisting of combinations of (i) 3-methyl-1,3-butanediol, glycerin and at least one of (ii) 1,3 butanediol, triethylene glycol, 1,5-pentanediol, propylene glycol, 2-methyl-2,4-pentanediol, diethylene glycol, dipropylene glycol, trimethylol propane and trimethylol ethane.

- The amount of the wetting agent in the recording ink is 20% by mass to 50% by mass.

- The viscosity of the recording ink at 25 C is 5 mPa.sec to 20 mPa.sec.
- The stimulation is one selected from the group consisting of heat, pressure, vibration and light.

Takashi teaches that to have the high quality printed image:

- The wetting agent is any one of (1) a combination of 3-methyl-1,3-butanediol and glycerin and (2) a combination selected from the group consisting of combinations of (i) 3-methyl-1,3-butanediol, glycerin and at least one of (ii) 1,3 butanediol, triethylene glycol, 1,5-pentadiol, propylene glycol, 2-methyl-2,4-pentadiol, diethylene glycol, dipropylene glycol, trimethylol propane and trimethylol ethane ([0021], [0023], [0055]).

- The amount of the wetting agent in the recording ink is 20% by mass to 50% by mass (see Abstract).
- The viscosity of the recording ink at 25 C is 5 mPa.sec to 20 mPa.sec ([0027]).
- The stimulation is one selected from the group consisting of heat, pressure, vibration and light (see figure: 7; [0046]-[0047]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Ishibashi by the aforementioned teaching of Takashi in order to have the high quality printed image.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Manish S. Shah/
Primary Examiner
Art Unit 2853

/MSS/